

IN THE CLAIMS

1. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease selected from the group comprised in a group of diseases consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising the steps of

- i) contacting a test compound with a PHEX polypeptide, and
- ii) detecting detect binding of said test compound to said PHEX polypeptide.

2. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease selected from the group comprised in a group of diseases consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising the steps of

- i) determining the activity of a PHEX polypeptide at a certain concentration of a test compound or in the absence of said test compound, and
- ii) determining the activity of said polypeptide at a different concentration of said test compound.

3. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease comprised in a group of diseases consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising the steps of

i) determining the activity of a PHEX polypeptide at a certain concentration of a test compound, and

ii) determining the activity of a PHEX polypeptide at the presence of a compound known to be a regulator of a PHEX polypeptide.

4. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the step of contacting is in or at the surface of a cell.

5. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the cell is *in vitro*.

6. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the step of contacting is in a cell-free system.

7. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the polypeptide is coupled to a detectable label.

8. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the compound is coupled to a detectable label.

9. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the test compound displaces a ligand which is first bound to the polypeptide.

10. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the polypeptide is attached to a solid support.

11. (currently amended) The method of claim 1 any of claims 1 to 3, wherein the compound is attached to a solid support.

12. (currently amended) A method of screening for therapeutic agents useful in the treatment of a disease selected from the group comprised in a group of diseases consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic

diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising the steps of

- i) contacting a test compound with a PHEX polynucleotide, and
- ii) detecting ~~detect~~ binding of said test compound to said PHEX polynucleotide.

13. (original) The method of claim 12 wherein the nucleic acid molecule is RNA.

14. (original) The method of claim 12 wherein the contacting step is in or at the surface of a cell.

15. (original) The method of claim 12 wherein the contacting step is in a cell-free system.

16. (original) The method of claim 12 wherein polynucleotide is coupled to a detectable label.

17. (original) The method of claim 12 wherein the test compound is coupled to a detectable label.

18. (currently amended) A method of diagnosing a disease selected from the group comprised in a group of diseases consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal comprising the steps of

- i) determining the amount of a PHEX polynucleotide in a sample taken from said mammal, and
- ii) determining the amount of PHEX polynucleotide in healthy and/or diseased mammals.

19-20. (canceled)

21. (currently amended) A pharmaceutical composition for the treatment of a disease
~~selected from the group comprised in a group of diseases~~ consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising a therapeutic agent which regulates the activity of a PHEX polypeptide, wherein said therapeutic agent is

- i) a small molecule,
- ii) an RNA molecule,
- iii) an antisense oligonucleotide,
- iv) a polypeptide,
- v) an antibody, or
- vi) a ribozyme.

22. (currently amended) A pharmaceutical composition for the treatment of a disease
~~selected from the group comprised in a group of diseases~~ consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising a PHEX polynucleotide.

23. (currently amended) A pharmaceutical composition for the treatment of a disease
~~selected from the group comprised in a group of diseases~~ consisting of hematological diseases, cancer, dermatological diseases, endocrinological diseases, metabolic diseases, inflammation, respiratory diseases, neurological diseases, cardiovascular diseases and urological diseases in a mammal, comprising a PHEX polypeptide.

24-26. (canceled)